

The listing of claims below replaces all prior versions and listings of claims in the application.

**Listing of Claims:**

1. (currently amended) A method of detecting a megakaryocyte comprising:
  - (a) preparing an assay sample by combining a sample comprising a cells with a reagent comprising a polymethine dye, wherein the preparing does not involve an immunological method;
  - (b) detecting fluorescent light and scattered light emitted by the cells;
  - (c) generating a scattergram from the detected fluorescent light and the detected scattered light, wherein the scattergram comprises a predetermined megakaryocyte region; and
  - (d) detecting the megakaryocyte though optics exclusively if a population exists in the predetermined megakaryocyte region of the scattergram generated from the detected fluorescent light and the detected scattered light, wherein the method executed by an automated hematology analyzer having the flow cytometer.
2. (canceled)
3. (original) The invention of claim 1 wherein the detecting involves an automated hematology analyzer.
- 4-5. (canceled)
6. (previously amended) The invention of claim 1 wherein the scattered light comprises side scattered light emitted by the cell.

7. (canceled)
8. (withdrawn - previously amended) The invention of claim 1 wherein the scattered light comprises forward scattered light emitted by the cell.
9. (canceled)
10. (original) The invention of claim 1 further comprising identifying the megakaryocyte region of the scattergram.
11. (original) The invention of claim 10 wherein the identifying comprises:  
generating a first reference scattergram from a plurality of information detected from a purified megakaryocyte;  
generating a second reference scattergram from a plurality of information detected from a cell in at least one of a peripheral blood sample and a bone marrow sample, wherein the peripheral blood sample and the bone marrow sample are substantially free of megakaryocyte; and  
comparing the first reference scattergram to the second reference scattergram, thereby identifying the megakaryocyte region.
12. (withdrawn) The invention of claim 11 wherein the purified megakaryocyte comprises a differentiated Dami cell.
13. (original) The invention of claim 11 wherein the purified megakaryocyte comprises a cell induced from a CD34 positive hematopoietic cell.
14. (original) The invention of claim 13 wherein the cell is induced with thrombopoietin.
- 15-19. (canceled)

20. (withdrawn - previously amended) The invention of claim 1 wherein cell size information is detected based on forward scattered light emitted by the cell, and cell interior information is detected based on side scattered light emitted by the cell.

21. (withdrawn - previously amended) The invention of claim 1 wherein cell size information is detected based on forward scattered light emitted by the cell, and degree of cell staining information is detected based on the fluorescent light emitted by the cell.

22. (withdrawn - previously amended) The invention of claim 1 wherein the detecting comprises passing the assay sample through an electrically charged aperture and identifying cell size information based on a change in direct current resistance and cell interior information based on a change in radio frequency resistance.

23. (currently amended) A method of detecting a megakaryocyte comprising:

(a) preparing an assay sample by combining a sample comprising a cells with a reagent comprising a polymethine dye and a hemolytic agent, wherein the preparing does not involve an immunological method;

(b) detecting scattered light and fluorescent light emitted by the cells;

(c) generating a scattergram from the detected fluorescent light and the detected scattered light, wherein the scattergram comprises a predetermined megakaryocyte region; and

(d) detecting the megakaryocyte if a population exists in the predetermined megakaryocyte region of the scattergram through optics exclusively generated from the detected fluorescent light and the detected scattered light, wherein the method executed by an automated hematology analyzer having a flow cytometer.

24. (original) The invention of claim 23 wherein the scattered light comprises side scattered light.

25. (original) The invention of claim 23 wherein the detecting involves an automated hematology analyzer.